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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/090,068

03/01/2002

Torsten Grust

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EXAMINER

NGUYEN, CINDY

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/090,068	<b>Applicant(s)</b> GRUST ET AL.	
	<b>Examiner</b> CINDY NGUYEN	<b>Art Unit</b> 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

This is response to amendment filed 03/31/08.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, 9-11, 14-16, 19-21, 24-26 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Alan S. Gunderson "An SQL Interface for Common LISP", Digital Equipment Corporation, copyright 1991 .

Regarding claims 1, 6, 9, 14, 19, 24 and 29, Alan discloses: A method and a database management system adapted to process queries in a pervasive computing environment and a program product comprising computer readable program code on one or more media said program code being capable of controlling and configuring a computer system having one or more computers to perform the process of :

a. receiving queries in SQL, the queries comprising a plurality of query terms (i.e., SQL queries, see section 3.1 The Lisp Component, pages 34, 35 and 36, Alan);

b. interpreting the queries by associating at least one declarative language function with the query terms (see example of Lisp language, the SQL queries converted into a common Lisp programmer, see page 37, Alan);

c. converting the queries represented by the at least one declarative language function to a plurality of imperative language statement and executing the imperative language statements and executing the imperative language statements ( see section 3.2, C component for Dynamic SQL, SQL statements expressed as strings in Lisp convert into standard C data structures and function calls, see pages 38-41, Alan).

Regarding claims 2, 10, 15, 20, 25, 30 all the limitations of these claims have been noted in the rejection of claims 1, 9, 14, 19, 24 and 29 above, respectively. In addition, Alan discloses: comprising converting the SQL to an intermediate tree representation corresponding to the at least one declarative language function associated with the plurality of query terms, and thereafter converting the query to at least one data structure that is interpreted by an imperative language interpreter core to perform the queries (i.e., see example of Lisp programmer in page 37, sql query can be converted into a list of DEFSTRUCT structures... each structure in the list corresponds to a row in database result table using the structure slot accessor functions... see page 37).

Regarding claims 3, 11, 16, 21, 26, 31 all the limitations of these claims have been noted in the rejection of claims 2, 10, 15, 20, 25 and 30 above, respectively. In

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addition, Alan discloses: wherein the declarative language function is identified by a pointer to further code such that the declarative language function is treated as data within the plurality of imperative language statements (i.e. SQL query is passed from Lisp to a C component, see page 38, Alan).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 7, 12, 17, 22, 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alan S. Gunderson "An SQL Interface for Common LISP", Digital Equipment Corporation, copyright 1991 in view of Simon Peyton Jones et al. "Bridging the gulf: a common intermediate language for ML and Haskell", Copyright 1998 ACM (hereafter Simon).

Regarding claims 4, 7, 12, 17, 22, 27 and 32, all the limitations of these claims have been noted in the rejection of claim 1, 6, 9, 14, 19, 24 and 29 above, respectively. However, Alan didn't disclose: wherein the declarative language is chosen from the group consisting of ML, LISP, and HASKELL. On the other hand, Steele discloses: ML, LISP and HASKELL. On the other hand, Simon discloses: wherein the declarative language is chosen from the group consisting of ML, LISP, and HASKELL. On the

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other hand, Steele discloses: ML, LISP and HASKELL (see abstract, page 49). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include wherein the declarative language is chosen from the group consisting of ML, LISP, and HASKELL in the system of Alan as taught by Simon. The motivation being to provide the ability to compile as good code as a more direct route turned out to be and identify two alternative language designs and explore the choices they embody.

Claims 5, 8, 13, 18, 23, 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alan S. Gunderson "An SQL Interface for Common LISP", Digital Equipment Corporation, copyright 1991 in view of Plate et al. "Optimizations Enabled by a relational data model view to querying data streams", copyright 2001 IEEE, (hereafter Plate).

Regarding claims 5, 8, 13, 18, 23, 28 and 33 all the limitations of this claim have been noted in the rejection of claims 1, 6, 9, 14, 19, 24 and 29 above, respectively. In addition, Alan disclose: wherein the imperative language is C language (see page 33, Alan). However, Alan didn't disclose wherein the imperative language is chosen from the group consisting of C, C++, Java, Modula2, and Smalltalk . On the other hand, Plate discloses imperative language such as C, C++, Java see page 2, second column, first paragraph). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include imperative languages is chosen from the group consisting C, C++, Java. The motivation being to write the request data as a

condition statement that allows us to optimize the queries before enacting them and also reoptimize them on the fly as the environment changes.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 571-272-4025. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cindy Nguyen

/C. N./

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/Apu M Mofiz/

Supervisory Patent Examiner, Art Unit 2161